Municipal File No 8 of 1890

Sh. Rd

P 41

Note on the D.E. Winton's Scheme for Supply of water to Bangalore

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Index

but the winter on 1st October. This would further represent a net intermediate quantity.

Abstract Catchment & supply of (

supply of water required

It is taken that $\frac{1}{5}$ will be probable proportion of Vem. lb & varying in the Kachanahalli catchment + 20 inches the lowest probable rainfall for any future year. I have not at hand the records of rainfall at Hebbal + Yellahanka, but the registers for Doddaballapur + Devanahalli stations which may be fairly assumed to be much the same as Yellahanka, show that for 86, 87, 88, + 89 the average rainfall was 33.43 + 37.31 inches respectively, the lowest record being for Dod Ballapur in 87, 29.78 inches. If we go to a famine year we must allow rainfall will be much less than 29 inch I too believe that we such a year as Vem. lb can be counted on that we are almost absolutely certain year it is very likely the Kachanahalli catchment would be hardly as bad as any other.

According to data assumed, $\frac{1}{5}$ Vem lb + 20 inches lowest probable rainfall and adding the minimum loss of 50 per cent for evaporation it is stated that 34 M. c/ft., the minimum supply required, will be available. What more is required in the worst possible year

In the worst year since the construction Sankey's tank from a Vem. lb of 7 M cub. ft per square mile. This would give 45 M. cub. ft for the 6½ sq. miles of independent catchment of Kachanahalli. The less favorable position of the latter would not make a difference of 10 M. cubic ft. in the Vem. lb

It must not be forgotten that the tanks filling Vem. to the district North + west East of Bangalore occur as a rule in October November subsequent to date of the Observations.

The important factor in favour of Hackenbailu catchment is the capability of an adequate storage by taking up Gollahalla & the other drainages above Gollahalla, should expansion of our supply ever become necessary or water at any time run the

CES.
5/11/90

Note on figures for Mr Winters' Memorandum marked on blue pencil

Proportion of Run-off to Rainfall.

According Mr Winters figures for rainfall & storage of water in Jakkam Rachanhalli up to 1st October, I would note that it is not fair to exclude quantity drawn off for irrigation from Jakkam & Rachanhalli. To say that three tanks received from Hettahanka probably as much as Rachanhalli lost would imply that only a small proportion of the water discharged over the Rachanhalli fields was absorbed. Such, in my opinion, was not the case. I believe a very large proportion of the water delivered between April & October from the Hettahanka channels must have been absorbed by the cultivation & the ground caused below reached the Jakkam tank

This argument here is not quite consistent with that in favour Lower down, that "no water, except from three new catchments and a scanty supply from irrigation above them, has reached the Jakkam or Rachanhalli tanks to date in current year

Now Rachanhalli irrigates 170 acres, & an acre requires on land number 5000 cyds. in 6 months. Supposing the irrigation this year & been done "Kartike", & been commenced in July, in the 3 months preceding October probably 2000 × 170 cyds. would have been delivered to the fields = 9,000,000 cft. or between $\frac{1}{4}$th & $\frac{1}{3}$ of the annual quantity required for the water supply. This factor does not have been disregarded.

Evaporation should, I think, have been taken into account in Mr Winters calculation as it is very likely that the tanks were empty or almost empty at the commencement of the year rains. Supposing them to have been empty, about 6 months having elapsed since rains first fell up to 1st October, the loss from evaporation would not probably be less than 4 ft. in depth over the mean area between 0 & the contours noted by

Mysore

1st November 1890

My dear Bowles

Please read the letter from Tomkins which I enclose. Before I received it I had written De Winton to say that any argu-ments that he put forward in favour of the Magadi road ought be founded on a joint supply for the Pettah and Civil and Military Station or on the comparative purity of the respective sources would not be

taken into consideration those for having already been fully discussed and finally disposed of. The only question that can be taken up now is the validity of Mr Winton's assertion that the Rachenhaith scheme will fail for want of water. He seems to have assumed this from the fact that the existing tank had not overflowed by the 1st October. It appears to me that he was premature in forming his opinion and should have waited for the result of the North East Monsoon notoriously I believe the tank filling

ranio of Baingalore before publishing
it Of Course Jonkins and I
are bound to follow the advice of
local experts in tank irrigation
and if you think that Larmines
estimate of the Rachenhalli b-ason
is too sanguine I am prepared to
re-open the question. Possibly De Winton
may have had reason to modify his
views after the late rains in Bangalore
and may now withdraw his objection
If he does not would you mind
critica- detail the paragraphs on
pages 5 and 6, which I have
marked in blue pencil? They

ceem to be the only ones which bear
the point at issue, namely the
lity of the Rachenhalli catchment
supplies the water required

Jn. Meeres

A. H. Clarke

Mysore
1st November 1890.

My dear Bowen,

Please read the letter from Fontinus, which I enclose - before received it I had written — De Winton to say that any ~~arrange~~ argu= ments the Govt Forward= Bowen of the Anaçadi road Scheme I - ended on a joint-supply for the Pollah & C-y Pn. Station, or on the Comparative merits of the respective courses would not be taken into consideration those points having already been fully discussed & finally disposed of - The only question that can be taken up now is the validity of De Winton's assertion that the Rachenhalli Scheme will fail for want of water - He seems to have assumed this from the fact that the ~~reservoir~~ tank had not surfplussed by the 1 October - It appears to me

that he was premature in forming his opinion; and should have waited for the result of the North East monsoon notoriously, I believe the tank-feeding rains of Bangalore before publishing it. Of course, Tomkins and I are bound to follow the advice of local experts in Tank Irrigation; and if you think that Lawrence's Estimate of the Rachenhalli basin is too sanguine I am prepared to reopen the question possibly Mr. Low may have had reason to modify his views after the late rains in Bangalore and may now withdraw his objection. If he does not, would you mind entering in detail the paras on pages 5 & 6, which I have marked in blue pencil? They seem to be the only ones which bear on the point at issue viz the ability of the Rachenhalli catchment to

suffly

supply the water required.

yours sincerely

(Sd) O St. John

Chatterton Hall
4/11/90.

My dear Colonel,

I get my 22·80 mcft from your Survey of the Jakkur tank (sent herewith to be kindly returned) It is the "present Capacity shown in the table

survey and as Garrun took it, apparently as the basis of his calculations I presumed that the "Proposed capacity of 109 + 231 cyds., or 29·65 mcft. had never been given to the Tank - but as you say that 29 mcft. is down on your records as the capacity of the tank I suppose it was so given

There is no date entered on the Survey, so I could not tell, except by Chrystie & Largé's signature, how long ago the Survey was taken With regard to Kachenhalli tank, plan sent herewith - 40·66 mcft. is the only Capacity given, and there does not appear, from the plan, to have been any intention to increase it

In para 11 of Garrun's suppl report, printed @ page 19 of Ly. C. to 1326, 1327 M. of 18 May/89, he makes out that Jakkur tank holds 55 mcft. between weir crest and 6' below it You will see how he makes this mistake

From

from his figures on the survey
The additional 6·2 mcft. makes no
difference to my argument that the
Rachenahalli-Jakkuntanen is too
shallow to admit of long-continued
storage of water in the tropics There
are no instances in India that I know
and have examined 35 completed
schemes of so shallow a basin being
used for storing water. It is —
quite as flat as Hebbal, if not
more so. —

Yours sincerely
(Sd) De Minton.

D. O.

Bangalore
5th November 189

My dear Mr Olivier

I delayed replying to your note of 1st inst on re De Winton's proposal, till I got back here and look up papers

I have been writing to him about some details, as I doubt the capacity assigned by him to Jakkur tank, and from his letter which I take it that he does not withdraw his objection to Lawrence Scheme, though Rachanhalli is now spilling.—

I therefore forward a note on the paras marked by you in his memo. His objection on ground of shallowness of Rachanhalli basin may be valid, but it is overcome by height given to weir. Of course the shallowness increases greatly the loss due to evaporation as compared with a deep basin of less area, but in the situation this can't be helped. I think I proposed to still further increase height of weir and bund, so as to store as much as possible in the best years.

Yours sincerely
(signed) C. Bowen

from the fact of the Winsors note I have marked it would appear that Carmine made a serious blunder in the supplemental report quoted, which I have not seen In calculating the contents he took the area of contour at mean level as the sum of the top and bottom areas, without dividing same by 2 But so far as I know this probably does not affect the issue. —

5/11/90.